

WHAT IS CLAIMED IS:

1. A user device, comprising:
a host processor; and
a wireless communication interface module including a physical radio layer and wake up logic circuitry not implemented by the host processor, the user device being configurable to enter a power save mode wherein the host processor is deenergized and substantially only the physical radio layer and wake up logic circuitry remain energized in the user device, a wake up signal being generated upon detection by the wake up logic circuitry of a traffic signal from a wireless communication system node indicating that data for the device is available in the wireless communication system.
2. The user device of Claim 1, wherein the wake up signal is used to generate a user alert on the user device.
3. The user device of Claim 1, wherein the wake up signal is used to automatically disable the power save mode to cause the host processor to be energized.
4. The user device of Claim 1, wherein the wake up logic circuitry is implemented in the physical radio layer.
5. The user device of Claim 1, wherein the wake up logic circuitry is implemented in a medium access controller (MAC) on the module.
6. The user device of Claim 1, wherein the wireless communication network is a 802.11 network and the traffic signal is at least a portion of a 802.11-defined traffic indication map (TIM).

7. The user device of Claim 1, wherein the traffic signal includes a special sequence of N bytes repeated M times, wherein N and M are integers.

8. The user device of Claim 1, wherein the wake up logic circuitry is embodied at least in part by a shift register and related logic circuitry.

9. A user device configured for wireless communication with an access point of a wireless network, comprising:

a host processor having a power save mode in which the host processor is deenergized;

a physical radio layer configured for communicating with the wireless network and energized even when the host processor is in the power save mode; and

wake up logic circuitry generating a wake up signal indicative of the availability of data for the user device in the network, the wake up signal being generated upon receipt of a code from the network, the code being unique to the user device.

10. The user device of Claim 9, wherein the wake up signal is used to generate a user alert on the user device.

11. The user device of Claim 9, wherein the wake up signal is used to automatically disable the power save mode to cause the host processor to be energized.

12. The user device of Claim 9, wherein the wake up logic circuitry is implemented in the physical radio layer.

13. The user device of Claim 9, wherein the wake up logic circuitry is implemented in a medium access controller (MAC) on a communication module selectively engageable with the host processor.

14. The user device of Claim 9, wherein the wireless network is a 802.11 network and the code is at least a portion of a 802.11-defined traffic indication map (TIM).

15. The user device of Claim 9, wherein the code includes a special sequence of N bytes repeated M times, wherein N and M are integers, followed by a user device identification.

16. The user device of Claim 9, wherein the wake up logic circuitry is embodied by a shift register.

17. An access point in a wireless network, comprising:

means for receiving a signal from a user device that the user device is entering a power save mode, the access point transmitting a code useful in disabling the power save mode when data intended for the user device exists in the network.

18. The network access point of Claim 17, wherein the wireless network is a 802.11 network and the code is at least a portion of a 802.11-defined traffic indication map (TIM).

19. The network access point of Claim 17, wherein the code includes a special sequence of N bytes repeated M times, wherein N and M are integers, followed by a user device identification.

20. A user device comprising:

host processor means for processing data, the host processor means having an active mode, wherein the host processor means is energized, and a power save mode, wherein the host processor means is deenergized;

physical radio means electrically connectable to the host processor means for communicating data from a wireless network thereto, the physical radio means remaining energized when the host processor means is in the power save mode; and

logic means receiving information from the physical radio means for determining whether a wake up code has been received from a network node.

21. The user device of Claim 20, wherein the host processor means is a host processor, the physical radio means is a physical layer of a wireless radio, and the logic means is a wake up logic circuit.

22. The user device of Claim 21, wherein the wake up code causes the generation of a user alert on the user device.

24. The user device of Claim 21, wherein the wake up code causes automatically disabling of the power save mode.

25. The user device of Claim 21, wherein the wake up logic circuit is implemented in the physical layer.

26. The user device of Claim 21, wherein the wake up logic circuit is implemented in a medium access controller (MAC) on a communication module selectively engageable with the host processor.

27. The user device of Claim 21, wherein the wireless network is a 802.11 network and the code is at least a portion of a 802.11-defined traffic indication map (TIM).

28. The user device of Claim 21, wherein the code includes a special sequence of N bytes repeated M times, wherein N and M are integers, followed by a user device identification.

29. The user device of Claim 21, wherein the wake up logic circuit is embodied by a shift register.